

In the Claims:

1. An improved rotary coin mechanism for the receipt of a payment made with at least one coin, the coin mechanism of the type comprising:

a stack of at least one coin disc within a coin mechanism casing, each coin disc  
5 having at least one open coin slot intended to receive a coin of a specific diameter,

the stack connected to the coin mechanism in a manner adapted for at least 360 degree rotation in one direction when the each coin slot requiring a coin is filled with a coin of the required size such that each rotating coin prevents the operation of a coin detector mechanism from stopping the forward rotation of that coin disc,

10 wherein the improvement comprises:

adding at least one tab to each coin disc near the trailing edge of at least one coin slot, the tab extending radially outward to extend the coin disc such that rotation of the tab on the trailing side of each coin slot through an opening in the leading edge of the casing prevents the maintained presence of a theft tool of sufficient size to interfere with the operation of the  
15 coin detector mechanism such that the theft tool cannot maintain contact with the coin detector mechanism for a sufficient range of rotation for the coin slot lacking a required coin of a specific diameter to be rotated past the coin detector mechanism.

2. The improved rotary coin mechanism of Claim 1 further comprising an additional brace to be added to the exterior of the coin mechanism casing, the brace serving  
20 to reinforce the leading edge of the coin mechanism casing to resist the creation of an artificially enlarged gap between the at least one tab and the corresponding leading edge of the casing through the forced flexing of the casing.

3. The improved rotary coin mechanism of Claim 1 wherein the at least one tab is shaped with a leading edge that will allow the tab to rotate past a coin detector detent  
25 without engaging the coin detector detent when the coin slot associated with the tab has a required coin of the prescribed specific diameter.

4. An improved rotary coin mechanism for the receipt of a payment made with at least one coin, the coin mechanism of the type comprising:

at least one coin disc with at least one coin slot, the at least one coin disc capable of a  
30 prescribed amount of rotation in one direction when each coin disc contains a coin of a required diameter in each coin slot requiring a coin such that each rotating coin prevents the

operation of a coin detector mechanism from stopping the forward rotation of that coin disc for lack of a required coin of the required diameter,

wherein the improvement comprises:

adding at least one tab to each coin disc near the trailing edges of at least one coin slot, the tab extending radially outward to extend the coin disc such that rotation of the tab through a corresponding opening in the casing obstructs continued use of a modified paperclip intended to prevent the operation of the coin detector mechanism from stopping the forward rotation of that coin disc for lack of the required coin of the required diameter, such that the coin disc lacking a coin of required diameter cannot be rotated past the coin detector mechanism as any modified paperclip with sufficient diameter to defeat the coin detector mechanism must be removed to allow rotation of the coin slot beyond the coin detector mechanism.

5. The improved rotary coin mechanism of Claim 4 further comprising an additional brace to be added to the exterior of the coin mechanism casing, the brace serving to reinforce the leading edge of the coin mechanism casing to resist the creation of an artificially enlarged gap between the at least one tab and the corresponding leading edge of the casing through the forced flexing of the casing.

6. The improved rotary coin mechanism of Claim 4 wherein a leading edge of the at least one tab is rounded to allow the tab to rotate past a coin detector detent without engaging the coin detector detent when the coin slot associated with the tab has a required coin of the prescribed diameter.

7. A vending machine comprising:  
a housing having a hollow interior and an access point for retrieving a vended item;  
at least one large coil rotated by the manual rotation of a rotary coin mechanism, the rotation of the large coil by a prescribed amount causing an auger motion to cause an item for vending to move from a resting position between turns of the large coil to a fall to the access point for retrieving vended items;

the coin mechanism comprising:

a casing;

at least one coin disc with at least one coin slot, the at least one coin disc capable of a prescribed amount of rotation in one direction when the coin disc contains a required coin of

a required diameter such that the rotating coin prevents the operation of a coin detector mechanism from stopping the forward rotation of that coin disc for lack of a required coin of the required diameter;

wherein each coin disc further comprises:

5           at least one tab on each coin disc near the trailing edge of the at least one coin slot, the tab extending radially outward to extend the coin disc such that rotation of the tab through an opening in the casing prevents the maintained insertion of a theft tool in an inserted position effective for defeating the coin detector mechanism throughout the rotation of the coin slot past the coin detection mechanism.

10           8.       The improved vending machine of Claim 7 further comprising an additional brace to be added to the exterior of the coin mechanism casing, the brace having at least one opening corresponding to at least one tab added to the at least one coin disc, the brace serving to reinforce the coin mechanism casing to resist the creation of an artificially enlarged gap between the at least one tab and the corresponding leading edge of the casing through the  
15       forced flexing of the casing.

9.       The improved vending machine of Claim 7 wherein the at least one tab is shaped with a leading edge that increases in radial height gradually to allow the tab to rotate past a coin detector detent without engaging the coin detector detent when the coin slot associated with the tab has a required coin of the prescribed diameter.

20           10.       A kit for upgrading a rotary coin mechanism to make the rotary coin mechanism more theft resistant, the kit to be used with a rotary coin mechanism of the type having:

a stack of at least one coin disc within a coin mechanism casing, each coin disc having at least one open coin slot intended to receive a coin of a certain prescribed size,

25           the stack connected to the coin mechanism in a manner adapted for at least 360 degree rotation in one direction when each one coin slot is filled with coins of the intended size such that each rotating coin of the prescribed size prevents the operation of a coin detector mechanism from stopping the forward rotation of that coin disc;

the kit comprising:

30           a replacement coin detector casing;

a set of at least one replacement coin disc, each coin disc having at least one open coin slot intended to receive a coin of a certain prescribed size, each coin disc having a set of at least one tab, with a tab positioned near a trailing edge of the at least one coin slot on the coin disc, the tab extending radially outward to extend the coin disc such that after  
5 substitution of the replacement coin disc for the previous coin disc, rotation of the at least one coin disc through an opening in the replacement coin mechanism casing obstructs the sustained use of a theft tool so that an inserted theft tool blocks additional forward rotation of the coin disc towards of the coin detector mechanism, the at least one tab further characterized by having a leading edge that will allow the tab to rotate past a coin detector  
10 detent without engaging the coin detector detent when the coin slot associated with the tab has a required coin of the prescribed diameter;

wherein:

the replacement coin mechanism casing has a set of at least one opening adapted to allow the rotation of each coin disc tab through the replacement coin mechanism casing; and  
15 the at least one tab ends before reaching the leading edge of the next coin slot such that a portion of the coin disc between the trailing edge of the tab and the leading edge of the coin slot has a radial height sufficiently low to rotate through the replacement casing without passing through the set of at least one opening in the replacement casing.

11. The kit of Claim 10 further comprising a brace to be added to the exterior of  
20 the coin mechanism casing, the brace serving to reinforce the replacement coin mechanism casing to resist the creation of an artificially enlarged gap between the tab and the leading edge of the replacement coin mechanism casing through the forced flexing of the replacement coin mechanism casing.

12. A method for modifying a rotary coin mechanism to reduce the vulnerability  
25 to theft from the sustained presence of an inserted theft tool which interferes with the ability of an internal coin detector from stopping the rotation of a coin disc lacking a coin of the prescribed size in a required coin slot, the method comprising;

Creating at least one modified coin disc with a tab extending radially outward from a zone near the trailing edge of at least one coin slot in the coin disc, the tab of sufficient radial  
30 height and covering a sufficient arc on the circumference of the coin disc to block the forward rotation of the coin disc in an assembled rotary coin mechanism towards the

corresponding coin detector mechanism if a theft tool remains sufficiently inserted in the rotary coin mechanism to interfere with the operation of the coin detector mechanism so that an inserted theft tool cannot be maintained in a sufficiently inserted position to defeat the coin detector from stopping the continued rotation of a coin slot lacking a required coin of prescribed size, the leading edge of the tab adapted to avoid engagement with a coin detector detent when the coin slot associated with the tab has a required coin of the prescribed diameter;

and

assembling the modified rotary coin mechanism using the at least one modified coin disc.

13. The method of Claim 12 further comprising the step of modifying the rotary coin mechanism to allow each tab sufficient clearance to rotate the prescribed amount to allow an assembled and in-service rotary coin mechanism to repeatedly vend products in response to insertion of required coins.

14. The method of Claim 13 wherein the step of modifying the rotary coin mechanism comprises adding at least one groove to a rotary coin mechanism casing so that the tab passes through the groove in the rotary coin mechanism casing during prescribed rotation of the tab and its coin disc.

15. The method of Claim 13 wherein:

the step of creating a modified coin disc is further characterized in that the at least one tab ends before reaching the leading edge of the next coin slot such that a portion of the coin disc between the trailing edge of the tab and the leading edge of the coin slot has a radial height sufficiently low to rotate through the modified rotary coin mechanism without passing through the portion modified to allow passage of a tab;

the step of assembling the modified rotary coin mechanism using the at least one modified coin disc comprises placement of the at least one modified coin disc on a cam assembly to be rotated within the modified rotary coin mechanism and the modified coin disc is initially placed on the cam assembly in a position that does not require the at least one tab to be initially positioned in a portion of the modified rotary coin mechanism that was modified to allow passage of the tab.

16. The method of Claim 12 further comprising mounting the modified rotary coin mechanism in operational contact with a vending machine so that operation of the modified rotary coin mechanism loaded with all required coins of prescribed size provides input to the vending machine to cause delivery of a vended item to a place accessible to a customer of the vending machine.

17. The method of Claim 12 wherein the step of modifying the rotary coin mechanism further comprises adding an external brace to the external surface of the rotary coin mechanism to reinforce the rotary coin mechanism where the leading edge of the coin slot enters into the rotary coin mechanism when rotated in the direction required to cause product to vend.